

ANISOTROPIC HEAT DIFFUSER PLATE

ABSTRACT OF THE DISCLOSURE

A method and apparatus for ensuring uniform temperature regulation of a mold cavity (90) during a mold process is disclosed. An anisotropic diffuser member(s) (100) is/are utilized for rapid providing heat transfer in preferred directions. An anisotropic diffuser member (100) is arranged within or along a mold cavity (90) to ensure that heat is transferred uniformly and rapidly along the target wall of the mold cavity (90). The anisotropic diffuser member (100) may be manufactured from a lay up of graphite fiber reinforced composites that have individual fibers (101) arranged in a uniform direction, e.g., having a characteristic grain. Since heat travels faster along the length (grain) of the individual fibers (101) of the diffuser member (100) than at angles opposed to it, an operator can manipulate heat transfer to ensure that heat is spread evenly along mold cavity (90) walls in a manner that avoids undesirable temperature gradients or hot spots.